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WAR FOOD ADMINISTRATION
Office of Distribution
Washington 25, D. C.MARKETING FACILITIES

The present prospect is that certain marketing facilities will be severely overtaxed during peak months. Transportation will present the most stringent limitation, cold storage will be second in importance, and processing will be third. Shortages in these three categories are interdependent. For example, the strain on transportation facilities would be reduced if storage facilities were more adequate and vice-versa.

Transportation

Present plans call for only limited replacement of transportation equipment, and the labor situation is expected to become still less favorable than at present. Unless military demands for motor trucks decrease considerably, sufficient replacements to maintain present equipment will not be forthcoming. The prospects for an adequate supply of heavy-duty truck tires is even more critical because the technical problems of making durable truck tires from synthetic rubber have not been solved. There has already been a very substantial shift from trucks to rails, particularly in the movement of fresh fruits and vegetables.

Box Cars. Although the number of box cars in service (approximately 740,000) is large in relation to the carloads of foods and other agricultural products moved in them, the situation will probably be tight for high-class equipment. The heaviest single use of box cars in the agricultural and food field is the movement of grain and grain products. In case of necessity, shipment of these commodities can be delayed for fairly

1

extended periods without serious loss. Terminal and sub-terminal grain-storage facilities have more space available than a year ago and there is a great deal of unused farm storage. Difficulties in moving this year's winter wheat are attributable to abnormally heavy yields and to shortage of labor to handle the grain at the elevators.

Livestock Cars. With a smaller hog crop in prospect, there should be fewer animals to be moved, even with allowance for some increase in the feeding of cattle. The railroads and truck lines have been able to handle the heavy marketings of 1943 and 1944, but more than half the livestock has been moved by truck. With inadequate truck replacements, difficulty in obtaining parts, and the critical shortage of heavy-duty tires, a further shift to rail shipment must be anticipated.

Tank Cars. If military requirements continue to increase, the situation will be serious in 1945. Of the approximately 146,000 tank cars in service, about 6,500 are required for fats and oils. The lower hog production expected in 1945 will decrease the number of cars needed for lard.

Assuming the same vegetable oil production in the 1945-46 crop year as in 1943-44, lower lard requirements, and the same level of industrial and military use as in 1944, there should be no serious difficulty. If military petroleum demands are increased much more, there will not be enough cars to go around. Some relief has already been obtained through the transfer of tankers to the Gulf to move gasoline and oil to the North Atlantic Coast and, when Germany collapses, it should be possible to provide enough additional tankers to completely relieve the present short tank-car supply.

Refrigerator Cars. There will be a serious shortage of refrigerator cars in 1945 unless the total production of perishables is substantially below 1944. The number of railroad and privately owned refrigerator cars in service declined from 150,000 in 1935 to 139,000 in October 1944. The present construction program to provide 1,800 cars by the end of 1945 will not be sufficient to cover retirements or cars that should be retired. Refrigerator cars have been tight almost continuously since September 1943, and at times the ICC has had to prohibit their use for the movement of such commodities as canned goods and beer.

Thus far in 1944, refrigerator-car loadings have been 10 percent greater than in 1943. Current estimates are that the trend will continue through 1944, with smaller increases in the first half of 1945 over the same period of 1944. This means that serious trouble is probable in 1945.

Congestion is to be expected particularly at terminals, where man-power and equipment shortages at times have slowed up operations in the past year. This calls for special caution in increasing or even maintaining fruit and vegetable acreage that is far from consuming centers.

The following table indicates estimated refrigerator car requirements under three sets of circumstances. The data in these tables are based upon the following assumptions:

1. The pattern of the 1945 refrigerator-car movement will be similar to that of a previous year or period of years which is considered to be most typical of the war period.
2. Changes in production of commodities in 1945 as compared with the base year will be reflected percentagewise in the 1945 refrigerator car movement.

3. There will be no substantial increase in the presently scheduled construction program of 1,800 refrigerator cars for 1945.

4. The retirement of refrigerator cars will continue substantially at the same rate as during the year ending June 30, 1944, or around 2,000 cars per year.

5. Weather conditions, and their effect on crop production and rail-way operations, will approximate those of 1944.

6. The manpower situation will be no worse than in 1944.

7. The railroads have already achieved maximum possible efficiency in the use of refrigerator cars.

8. Cooler and freezer occupancy will continue to be at capacity during the fall months and it will not be possible to hold perishables in storage long enough to relieve appreciably the strain on refrigerator cars.

9. It is not feasible, within a short time, to change materially the seasonal pattern of distribution of perishables in order to relieve the transportation strain during the peak fall season.

The following conclusions are indicated: (1) Under Assumption I, the demand for refrigerator cars will exceed the supply by approximately 23,000 cars during the fall of 1945; (2) Under Assumption II, demand will exceed supply by approximately 19,000 cars during the late fall; (3) In terms of Probable Production, demand will exceed supply by approximately 18,000 cars during the late fall.

There have already been shortages of refrigerator cars during this season and last. These shortages have been dealt with by various devices, including diversion to box cars at times in certain areas and heavier loading. Completion of an 18,000-car construction program in time to meet requirements

during the fall of 1945 appears to be impossible. Nine thousand refrigerator cars are the maximum number constructed within the period of one year. Construction of cars for military use - box cars, tank cars, and gondolas - has priority over refrigerator cars. Car-building companies are operating at or near capacity in the construction of cars for military uses as well as tanks and other war equipment so that there is limited leeway for expanding the construction of refrigerator cars.

It is apparent, therefore, that the problem cannot be solved by a construction program alone and that it is necessary to examine other possibilities.

A reduction in requirements - particularly for those commodities which have a peak fall movement - would involve the following serious difficulties. (1) In general, the requirements specified in goals are considered to be necessary for effective prosecution of the war. (2) For most commodities, lowering of price supports would require action by Congress. (3) In general, those price supports which are above the legal minimum involve commodities which are in short supply. (4) Several of the most important perishables (including meats, potatoes, sweetpotatoes, apples, and citrus fruits) are in heavy movement during the peak fall period. (5) Several of the perishables (including fruits, meats, and dairy products) are long-cycle commodities whose rates of production cannot be changed quickly.

If restrictions were placed on the movement in refrigerator cars of non-essential perishables (such as cucumbers, celery, and lettuce) the

following difficulties would be encountered. There would be serious production dislocations in several of the most important fresh-vegetable areas. A program initiated at the beginning of the war to discourage the production of non-essential crops by refusing to allow credit for the growing of these crops in the deformation of farm labor has met with little success.

Restrictions might be placed on the movement of canned foods and beer in refrigerator cars during the late fall months. Such restrictions would involve losses from freezing and other causes. Railroads will accept shipments of canned foods and beer in box cars during this season only at shippers' risk.

Storage

Dry storage space is expected to be adequate. The difficulties encountered in getting cotton and grain into storage are attributable to shortages of labor at compressors and warehouses.

Cold storage - both cooler and freezer - is expected to be a major problem in 1945. Because of abnormal demands upon cold storage space caused by emergency war programs, such space has already been so short in certain seasons and areas as to interfere with the orderly distribution of certain commodities.

An attempt has been made to forecast the strain on public cold-storage facilities in 1945. In order to do this, certain assumptions had to be made. It was assumed that cold-storage holdings by months in 1945 would bear the same relationship to production in those months as prevailed in 1943. It was also assumed, with few exceptions, that production of the several agricultural commodities by months in 1945 would follow the same seasonal pattern as existed in prior years deemed to be reasonably typical, and that sufficient labor will be available to operate cold storage facilities at the indicated levels of occupancy. Calculations are based on the amount of space which was built and available by October 1, 1943.

Cold-storage requirements for 1945 have been estimated under three sets of circumstances. The accompanying table shows the projected percent of occupancy for cooler and for freezer storage by months in 1945 and for 1943 and 1944 as far as data are available.

Under Assumption I, which allows for a continuation of the war in both Europe and the Pacific throughout 1945, the quantity of farm products that

would require cold storage would be greater than could be handled in the late fall and winter months, particularly for those commodities which require freezer storage.

Under Assumption II, which anticipates an end to the European phase of the war before planting time in the spring of 1945, the strain on cooler and freezer space in 1945 would be about as great as under Assumption I.

Cold-storage requirements estimated on the basis of probable production are not greatly different from those experienced in 1943. For most months in 1945, cold-storage space may be less fully occupied than during 1944. However, according to these figures, cooler space will be inadequate to handle the load during November, and freezer space will be filled almost to capacity during the last 4 months of the year. The available space has been made to serve during 1944 only by the use of such expedients as limiting the length of time commodities can be held in storage, excluding from refrigerated storage commodities which can be held in non-refrigerated space, prohibiting freezer storage of commodities which can be held at higher temperatures, and denying freezer space to some commodities which require freezer temperatures if they are to be stored at all.

Although it may be concluded from the above that the cold-storage situation probably will not be critical except in the late fall months of 1945, it must be remembered that this forecast is based on certain assumptions which may not coincide with actual developments. For example, the pattern of use of storage space by the armed forces and by various government agencies may substantially affect the load which must be carried and

certainly will affect the amount of space available for civilian purposes. Furthermore, no account has been taken of the possibility that government holdings of perishable commodities may be greater in 1945 because of increased price-support activities. Lack of labor has resulted in inefficient use of many cold storage warehouses; if added labor should become available in 1945, the cold storage situation would be materially relieved.

If it is necessary for government agencies to purchase large stocks of eggs or other commodities in order to support prices, it is extremely important that specific programs be worked out in advance to insure a normal flow of such commodities through the usual market channels. Any unusual proportion of major commodities put into cold storage, or delay in removing commodities from cold storage, would quickly create a critical situation. Unpredictable events during the course of the war and failure to achieve an orderly movement of commodities to our armed forces and Allies could easily precipitate a crisis in storage space.

On the other hand, there is some slight margin of safety in the fact that these data apply only to public warehouse space and exclude apple storage houses. In private and semi-private warehouses, in meat packing plants, and in apple houses, as of October 1, 1943, there were approximately 186 million cubic feet of cooler and 41 million cubic feet of freezer space. These figures compare to approximately 137 million cubic feet of cooler and 101 million cubic feet of freezer space in public cold-storage houses, as indicated below. While normally this non-public space is filled before public space, in slack or off-season periods some use of apple houses can be made, as in the past, to relieve congestion elsewhere.

Cold-Storage Space, October 1, 1943

	<u>Public</u>	<u>Other</u>
Cooler	137	186
Freezer	101	41

Also, the estimates of percent of occupancy developed here are based on the space available October 1, 1943. Based on past trends, known installations, and approved programs, an additional 13 million cubic feet of space will have been constructed by the summer of 1945, of which about one-fourth will be cooler space and three-fourths freezer. Most of this will be public space; the remainder will be privately-owned space which will contribute to the relief of the public-space shortage. These additions will represent an increase of somewhat more than 2 percent in the public cooler and 9 percent in public freezer space that was available October 1, 1943:

Relative cooler and freezer occupancy, 1943, 1944, and 1945
based on Assumption I, Assumption II, and probable production.

	Percent of occupancy ^{1/}				
Month	1943	1944	1945		
			Assumption I	Assumption II	Probable
<u>Cooler</u>					
January	60	68	64	62	61
February	59	78	63	61	60
March	57	74	58	55	54
April	61	80	59	55	54
May	64	82	58	54	54
June	68	84	59	55	55
July	76	85	64	59	60
August	77	84	68	63	63
September	77	81	69	65	63
October	75	78	79	77	75
November	77		91	90	88
December	73		84	83	81
<u>Freezer</u>					
January	75	89	86	81	89
February	69	89	78	73	77
March	64	92	68	64	65
April	61	88	64	60	58
May	62	85	64	61	59
June	67	87	68	67	63
July	77	87	77	76	72
August	83	89	86	86	80
September	87	89	91	91	86
October	90	89	96	96	90
November	89		93	93	88
December	89		93	92	88

^{1/} Probable maximum practical occupancy for the country as a whole; freezer space 92 percent, cooler space 85 percent.

Processing Facilities

In general, physical processing facilities for agricultural and food commodities are expected to be adequate. In nearly all categories, however, growing labor shortages are affecting operations. During 1944, all types of food processing have suffered from labor shortages - especially seasonal industries like fruit and vegetable canning. Serious labor shortages have been experienced in the grading of eggs and have prevented maximum use of hog-slaughtering facilities.

Private storage, especially cold storage, at processing plants is another factor which may become a bottleneck. Meat packers and others have customarily assumed that public storage will be available for their overflow at peak seasons.

To get the maximum use of facilities, care will have to be given to the location of crop production. Vegetables for processing should not be planted in areas lacking processing facilities with the expectation of obtaining transportation to plants in other areas.

There undoubtedly will be some serious problems in the processing of foods and fibers in 1945-46 but, with important exceptions, they will relate to the utilization and management of facilities rather than to over-all deficiencies in the amount of facilities available. Labor probably will be the leading problem. With respect to vegetables for processing, careful consideration should be given to the adequacy of local processing facilities before commitments are made.

Containers

Containers will continue to be scarce - especially new wooden and fiber containers for fresh fruits and vegetables, meats, and dairy and

poultry products. Fruit and vegetable containers cannot be plentiful while lumber and veneer supplies are so restricted and labor is scarce. The problem can be solved through the re-use of second-hand containers. Allotment or rationing of new supplies will be used with due regard to the suitability of used containers for the various products.

Successful action has been taken in getting satisfactory rates established to make possible the return of used wooden containers from the terminal markets to producing areas. These rate adjustments were necessary if the used containers were to find their way back to the growers. Continued attention will need to be given to the salvage of containers. No great further increase in the numbers salvaged for re-use can be relied upon, but maximum results of the current programs can be attained only by continued effort.

One of the most serious container problems expected in 1945 is the obtaining of an adequate supply of egg cases. Because production of eggs is expected to remain high, and because many used containers are being worn out, there will be real difficulty in getting sufficient quantities of new containers to handle prospective supplies of eggs. All shippers and handlers of eggs are being urged to place their orders for new cases as promptly as possible in order to get maximum production before the peak season begins. The War Food Administration is working with OPA and the War Production Board to do everything possible to insure that sufficient materials will be supplied for the manufacture of these cases.

Summary and Conclusion

Even if total farm production in 1945 is somewhat below 1944, the strain on marketing facilities will be increased because of such factors as

1. Continuation of the shift of traffic from trucks to rail with a possible increase in the rate of the shift.
2. Continued decline in the number of refrigerator cars.
3. A possible increase in labor shortages.
4. A possible increase in abnormal demands created by emergency war programs such as military and Lend-Lease procurement and price-support activities.

The demand has already exceeded the supply of certain types of marketing facilities. Such strains have been dealt with by various devices of management intended to insure that the most essential needs were met first. In view of the fact that tentative production goals for 1945 have been calculated in terms of requirements for effective prosecution of the war and of other compelling considerations, the strains upon marketing facilities that are in prospect during 1945 call for more vigorous and careful management rather than for downward adjustments in production goals.

Developed by: Marketing Facilities Branch, Distribution Planning Branch, and the Commodity Branches.

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